

Revised: 19 January, 2002

# **INSURV BRIEF AND CHECK SHEETS**



# **COMMUNICATIONS**

## **SAFETY SUMMARY**

The Commanding Officer shall be responsible for the safety of all personnel and equipment.

The following are recommended safety precautions that personnel must understand and apply during many phases of operation and maintenance.

### **\* KEEP AWAY FROM LIVE CIRCUITS**

Operating personnel must observe all safety regulations at all times. Do not replace components or make adjustments inside the equipment with the high voltage supply turned **ON**. Under certain conditions dangerous potentials due to charges retained by capacitors may exist in circuits although the power control is in the **OFF** position. To avoid casualties, always remove power and discharge and ground a circuit before touching it.

### **\* DO NOT SERVICE OR ADJUST ALONE**

Under no circumstances should any person reach into or enter an enclosure to service or adjust the equipment without presence of another person who is capable of rendering aid.

### **\* RESUSCITATION**

Personnel working with or near high voltages should be familiar with modern methods of resuscitation.

### **\* WARNINGS AND CAUTIONS**

Observe all **WARNINGS** and **CAUTIONS** found in the referenced Maintenance Requirement Cards (MRCs).

## **GENERAL**

### INTRODUCTION.

Prior to the inspection cognizant ship personnel should review the test procedures listed in this handout and the COMBAT SYSTEMS/C41/SUPPORT TEST PACKAGE from NAVAL WARFARE ASSESSMENT STATION. Ship's personnel should become familiar with problems encountered when interfacing with other systems. Each referenced test should have the appropriate MRC available on the ship. MIP's/MRC's listed from the latest Semi-Annual Force Revision (SFR) will be used during testing.

### INSURV REQUIRMENTS.

- a. All combat system equipment will be energized and made ready in all respects prior to commencement of the INSURV.
- b. All combat system equipment will be checked and aligned in accordance with applicable documentation prior to the INSURV.
- c. Only checks/equipment applicable to the specific installation on the ship will be tested.
- d. Test procedures identified in the enclosed handout and the COMBAT SYSTEM/C41/SUPPORT TEST PACKAGE constitute the minimum required testing necessary to demonstrate the ship's equipment. Additional tests may be required by the inspector when conditions/results indicate a problem exists.

### PREPARATION.

Preparing for the INSURV inspection is discussed in INSURV instructions provided to the ship. These instructions are supplemented by INSURVNOTES which provide specific and detailed requirements which must be carefully reviewed by all levels of shipboard personnel. Equipment must operate within PMS parameters (technical manual where no PMS exists). While no specific requirements are imposed by INSURV to conduct PMS checks prior to the inspection, some review of equipment material condition would be prudent. For example:

a. Scheduled PMS should be completed to the maximum extent possible. Do not defer a MRC to await conduct during the inspection. Since the board reports the "**as found**" condition of equipment, a little forethought may reduce deficiencies.

b. Where possible, checks which are due in the near future should be run early. A quarterly check of power out which was at the low end of the standard three months ago is likely to fail now.

c. When the ship workload or operating schedule permits, it is advisable to perform less frequent MRC's such semi-annual or annual and situational requirements which "clean and inspect" equipment. This process finds items such as missing cover or door screws, burned out indicator lamps, or dirty filters and eliminates deficiencies which could have been easily corrected prior to the inspection.

## INSURV COMMUNICATIONS BRIEF

1. The inspection team will board the ship at approximately 0745 on the first day of the inspection. After introduction of the BOARD members and ship counterparts the inspection will begin.
2. Once the inspection team is on board, **no outside assistance** may be used to correct any deficiencies with the exception of underway restrictions. **INSURV inspectors** are prohibited from assisting ship's force in repairing equipment during their inspection. **Equipment will be documented as found.** If a deficiency is corrected, it will be documented as a deficiency and annotated as "(corrected)". The uniformed inspector must be informed prior to 1200 day 3 of any equipment to be retested. Equipment to be retested will be retested on a not to interfere basis after all other equipment has been inspected and if the inspector has the opportunity to witness appropriated retesting. (See INSURVINST 4730.1)
3. INSURV uses the following criteria to conduct the inspection:
  - A. PMS
  - B. Technical Manuals
  - C. NAVSHIPS Technical Manuals (NSTMs)
  - D. General Specification for Overhaul of Surface Ships (GSO)
  - E. General TYCOM Directives
  - F. EIBS & Safety Bulletins
4. The following windows frequencies may be used for radio checks:

SESEF NORFOLK	SESEF MAYPORT	SESEF EDIZ HOOK	SESEF PEARL HARBOR	SESEF SAN DIEGO
*274.8MHZ	*274.8MHZ	*308.5MHZ	*277.0MHZ	236.2MHZ
4040KHZ	5745KHZ	*3236KHZ	*16087KHZ	264.2MHZ
4515KHZ				2792KHZ
*7535KHZ				
9260KHZ				
*12315KHZ				

\*Guarded continuously during normal working hours.

5. Ensure all required test equipment is on board, operating and calibrated. Test equipment will be IAW MRC's/tech manual requirements.

6. Have the following documents available upon inspectors arrival:

- A. Antenna photos (original and two Xerox copies)
- B. Antenna radiation patterns
- C. HF impedance report (SMITH CHARTS)
- D. EMI Certification
- E. RADHAZ Certification
- F. 13 week file for IT's and ET's.
- G. A current copy of CSMP (**separated by workcenters**)
- H. A current copy of 8 o'clock reports.
- I. List of all installed communications equipment, couplers, antennas (include SSES, METRO and INTEL spaces), and portable radios.

7. The following areas will be inspected by the Communications Inspector:

- ALL EXTERIOR COMMUNICATION SYSTEMS AND EQUIPMENT
- ALL RADIO SPACES
- ALL INTEL SPACES (SSES/OUTBOARD)
- ALL METEOROLOGICAL SPACES

8. Make prior arrangements with SESEF for communication checks.  
(SESEF Norfolk: 425-1094/SESEF Mayport: 270-5752/SESEF EDIZ HOOK:  
396-7024 EXT 523/SESEF PEARL HARBOR: 668-3123/SESEF SAN DIEGO:  
553-3184/6441/SESEF YOKOSUKA: 011-81-31-734-7288)

9. Arrange for an assist ship for day 1 (as a backup).

## DAY 1

10. Have the following ready when INSURV inspectors arrives in radio:

- A. **ALL CRYPTO EQUIPMENT LOADED.** CRYPTO equipment checks will be conducted with SESEF or assist ship. (ALL CRYPTO EQUIPMENT WILL BE CHECKED - INCLUDING EQUIPMENT IN VAULT)
- B. UHF, VHF, non-secure and secure voice communications established with SESEF/assist ship.
- C. All RZHS Remotes will be checked.
- D. ALL PORTABLE/EMERGENCY COMM EQUIPMENT BROKEN OUT (**with batteries installed**) AND READY TO TEST. Normally scheduled for 1000.

Note: Normally, all installed communication equipment checks are halted at 1400 for dead bus transfer checks.

11. Communication systems and equipment checks will be conducted in accordance with attached check list and the Combat Systems Test Package (provided SEPCOR 45 days prior to INSURV by NSWC Corona, CA). Checks will be conducted in accordance with current PMS or technical manuals (if no current PMS exist). UHF and VHF checks with SESEF will be conducted during the first day (including CRYPTO).

12. Fleet Electromagnetic Interference Readiness (EMI) inspector will TDR and VSWR all transmission lines, conduct topside bonding and grounding inspection and verify any EMI problems.

13. Have antenna maintenance personnel standing by with MRCs, an operable megger, and applicable tools to megger the HF wire antennas and any HF whips that can be reached **without** going aloft. Note: Aloft day is day 2 of the inspection.

## Day 2

14. Have man aloft chit run by 0800.

15. Have antenna maintenance personnel standing by with MRCs, four climbing harnesses and climber safety sleeves, an operable megger and applicable tools to megger the HF wire antennas and any HF whips that weren't meggered on DAY 1.

16. All communications antennas will be inspected for preservation and weatherproofing.

## DAY 3

17. Communication systems and equipment checks continued. HF checks (including crypto) with SESEF will be conducted on the underway day (normally this is day 3 of the inspection).

18. All SATCOMM systems will be tested and operated. Ensure all satellite time/usage authorizations are obtained (i.e. INMARSAT B, EHF, etc.).

18. Space inspection for all IT owned spaces will take place at 1230.

#### **DAY 4**

19. Uniformed inspector will return to the ship for a debrief with the department head/division officer and will provide a courtesy copy of discrepancies written.

20. This will conclude the inspection.

**NOTE:** Keep in mind that the above is not all inclusive. During the course of the inspection every piece of equipment on board will be inspected.

#### **DAY 5**

21. Formal debrief.

#### **ADDRESS AND POINT OF CONTACT FOR ALL INSPECTION BOARD:**

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## INSURV EXTERIOR COMMUNICATIONS CHECK LIST

NOTE: SYSTEMS AND EQUIPMENT SHALL MEET OR EXCEED PMS PERFORMANCE STANDARDS AND MATERIAL CONDITIONS.

### ANTENNAS

#### HF WHIP ANTENNAS

- \_\_\_\_ 1. MEASURE ANTENNA INSULATION RESISTANCE.
- \_\_\_\_ 2. INSPECT ANTENNA PRESERVATION AND WEATHERPROOFING.
- \_\_\_\_ 3. INSPECT STATIC DRAIN RESISTOR (RECEIVE ANTENNAS).
- \_\_\_\_ 4. INSPECT ANTENNA TILTING MECHANISM.
- \_\_\_\_ 5. REMOTE INDICATORS/CONTROLS.
- \_\_\_\_ 6. INSPECT BOND STRAPS ON COUPLERS.
- \_\_\_\_ 7. INSPECT MATCHING NETWORK.
- \_\_\_\_ 8. WARNING SIGNS.

#### HF FAN WIRE ANTENNAS

- \_\_\_\_ 1. MEASURE ANTENNA INSULATION RESISTANCE.
- \_\_\_\_ 2. INSPECT ANTENNA PRESERVATION AND WEATHERPROOFING.
- \_\_\_\_ 3. INSPECT TENSION/SAFETY LINKS/MATCHING NETWORK.

#### UHF/VHF ANTENNAS

- \_\_\_\_ 1. MEASURE ANTENNA VSWR/TDR.
- \_\_\_\_ 2. INSPECT ANTENNA PRESERVATION AND WEATHERPROOFING.
- \_\_\_\_ 3. INSPECT FOR EXCESSIVE VIBRATION UNDERWAY.

#### OE-82()/WSC-1(V) ANTENNA GROUP

- \_\_\_\_ 1. MEASURE OE-82(U)/WSC-1(V) PREAMPLIFIER GAIN.
- \_\_\_\_ 2. INSPECT ANTENNA GROUP.
- \_\_\_\_ 3. CONDUCT ANTENNA GROUP PERFORMANCE TESTS.
- \_\_\_\_ 4. INSPECT ANTENNA PRESERVATION.
- \_\_\_\_ 5. INSPECT WATER TIGHT INTEGRITY OF AM-6691 AND MISSING OR LATCHES.
- \_\_\_\_ 6. CHECK ANTENNA BLOCK ZONES.
- \_\_\_\_ 7. DRY AIR LINES.

## PORTABLE COMMUNICATION EQUIPMENT

### AN/CRT-3

- \_\_\_\_ 1. INSPECT RADIO SET
- \_\_\_\_ 2. INSPECT ANTENNA WIRE.
- \_\_\_\_ 3. TEST OPERATE RADIO SET (IAW PMS).
- \_\_\_\_ 4. INVENTORY KIT/INSTRUCTION MANUAL.
- \_\_\_\_ 5. CHECK HELIUM BOTTLE PSI.

### AN/PRC-96

- \_\_\_\_ 1. INSPECT RADIO SET AND BATTERIES.
- \_\_\_\_ 2. TEST OPERATE RADIO SET.
- \_\_\_\_ 3. CHECK FOR UPRIGHT STOWAGE.
- \_\_\_\_ 4. CHECK BATTERY EXPIRATION.

### AN/PRC-41

- \_\_\_\_ 1. INSPECT RADIO SET.
- \_\_\_\_ 2. TEST OPERATE RADIO SET.
- \_\_\_\_ 3. INSPECT SUPPORT EQUIPMENT (ANTENNAS, HANDSETS, ETC.).

### AN/PRC-25, 77

- \_\_\_\_ 1. INSPECT RADIO SET.
- \_\_\_\_ 2. TEST OPERATE RADIO SET.
- \_\_\_\_ 3. INSPECT SUPPORT EQUIPMENT (ANTENNAS, HANDSETS, ETC.).

### EPIRB

- \_\_\_\_ 1. INSPECT RADIO SET.
- \_\_\_\_ 2. TEST OPERATE RADIO SET.
- \_\_\_\_ 3. VERIFY UNIT IS MOUNTED.

### AN/PRC-113, PRC-114

- \_\_\_\_ 1. INSPECT RADIO SET.
- \_\_\_\_ 2. TEST OPERATE RADIO SET.
- \_\_\_\_ 3. INSPECT SUPPORT EQUIPMENT (ANTENNAS, HANDSETS, ETC.)

## HF/UHF/VHF/SATCOM EQUIPMENT

### COUPLERS

#### HF TRANSMIT COUPLER GROUPS

- \_\_\_\_ 1. MEASURE INSERTION LOSS. (IAW TECH MANUAL)
- \_\_\_\_ 2. TEST ANTENNA COUPLER GROUP AIR FLOW ALARM CIRCUIT.
- \_\_\_\_ 3. TEST COUPLER GROUP DRAWER INTERLOCK CIRCUITS.
- \_\_\_\_ 4. TEST OPERATE ANTENNA COUPLER GROUP.
- \_\_\_\_ 5. CHECK LIGHT, CONTROL KNOBS, ETC.
- \_\_\_\_ 6. TEST AUTO TUNE CIRCUITS.

#### HF RECEIVE MULTI-COUPLER GROUPS

- \_\_\_\_ 1. MEASURE INSERTION LOSS.
- \_\_\_\_ 2. TEST PROTECTIVE CIRCUIT OPERATION.
- \_\_\_\_ 3. TEST COUPLER OVERLOAD LAMPS.
- \_\_\_\_ 4. TEST OPERATE ANTENNA COUPLER GROUP.

#### UHF/VHF COUPLER GROUPS

- \_\_\_\_ 1. TEST OPERATE ANTENNA COUPLER GROUP.
- \_\_\_\_ 2. MEASURE INSERTION LOSS.
- \_\_\_\_ 3. PERFORM BIT TEST (OA-9123)

#### HF TRANSMITTERS

- \_\_\_\_ 1. MEASURE OUTPUT POWER.
- \_\_\_\_ 2. MEASURE CARRIER SUPPRESSION.
- \_\_\_\_ 3. PERFORM MARK/SPACE FREQUENCY.
- \_\_\_\_ 4. PERFORM CARRIER FREQUENCY.
- \_\_\_\_ 5. PERFORM TRANSMITTER FREQUENCY SELECTION.
- \_\_\_\_ 6. TEST OPERATE TRANSMITTER (AM, LSB, USB, ISB, FSK, CW).
- \_\_\_\_ 7. VERIFY INTERLOCK SWITCHES.
- \_\_\_\_ 8. INSPECT CHASSIS SLIDES.
- \_\_\_\_ 9. OPEN AND TILT FOR MAINTENANCE.
- \_\_\_\_ 10. INSPECT MUFFLERS.
- \_\_\_\_ 11. VERIFY LRI CAPABILITY AND OPERABILITY.
- \_\_\_\_ 12. INSPECT PA AND DRIVE CURRENT/BALANCE, PLATE VOLTAGE, ETC.
- \_\_\_\_ 13. INSPECT CLEANLINESS, INTERNAL AND WIRE HARNESSSES.
- \_\_\_\_ 14. INSPECT COOLING VENTS/SYSTEMS.

#### **HF RECEIVERS**

- \_\_\_\_ 1. MEASURE RECEIVER SENSITIVITY.
- \_\_\_\_ 2. TEST RECEIVER AGC CIRCUIT.
- \_\_\_\_ 3. TEST FREQUENCY LOCKING ACTION.
- \_\_\_\_ 4. INSPECT RECEIVER (LAMPS, CLEANLINESS, HARNESSSES).
- \_\_\_\_ 5. TEST OPERATIVE RECEIVER.
- \_\_\_\_ 6. INSPECT CHASSIS SLIDES.

#### **UHF TRANSCEIVERS (LOS)**

- \_\_\_\_ 1. MEASURE 5 MHZ FREQUENCY OUTPUT.
- \_\_\_\_ 2. MEASURE VCXO/TCXO CONTROL VOLTAGE AND FREQUENCY.
- \_\_\_\_ 3. MEASURE RECEIVER SENSITIVITY.
- \_\_\_\_ 4. MEASURE RECEIVER SQUELCH SENSITIVITY.
- \_\_\_\_ 5. CONDUCT BITE TEST.
- \_\_\_\_ 6. TEST OPERATE TRANSCEIVER.
- \_\_\_\_ 7. MEASURE TRANSMITTER OUTPUT POWER (AM, FM).
- \_\_\_\_ 8. INSPECT CHASSIS SLIDES.
- \_\_\_\_ 9. INSPECT CIRCUIT CARD RETAINING COVERS.
- \_\_\_\_ 10. DEMONSTRATE HAVEQUICK OPERATION {WSC-3(V)11}.

#### **VHF TRANSCEIVERS**

- \_\_\_\_ 1. MEASURE TRANSMITTER POWER OUTPUT.
- \_\_\_\_ 2. MEASURE RECEIVER SENSITIVITY.
- \_\_\_\_ 3. MEASURE TRANSMITTER FREQUENCY.
- \_\_\_\_ 4. TEST OPERATE TRANSCEIVER.
- \_\_\_\_ 5. VERIFY SQUELCH.

#### **BRIDGE TO BRIDGE RADIO**

- \_\_\_\_ 1. INSPECT TRANSCEIVER SET.
- \_\_\_\_ 2. MEASURE TRANSMITTER POWER OUTPUT.
- \_\_\_\_ 3. TEST OPERATE TRANSCEIVER.
- \_\_\_\_ 4. MEASURE RECEIVER SENSITIVITY.

**UHF TRANSCEIVERS (SATCOM)**

- \_\_\_\_\_ 1. MEASURE TRANSMITTER OUTPUT POWER (AM, FM).
- \_\_\_\_\_ 2. MEASURE RECEIVER SENSITIVITY.
- \_\_\_\_\_ 3. MEASURE 5 MHZ FREQUENCY OUTPUT.
- \_\_\_\_\_ 4. MEASURE VCXO CONTROL VOLTAGE.
- \_\_\_\_\_ 5. CONDUCT BITE TEST.
- \_\_\_\_\_ 6. MEASURE RECEIVER AM/FM SENSITIVITY.
- \_\_\_\_\_ 7. TEST OPERATE TRANSCEIVER.
- \_\_\_\_\_ 8. INSPECT CHASSIS SLIDES.
- \_\_\_\_\_ 9. INSPECT CIRCUIT CARD RETAINING COVERS.

**OK-455()/WSC**

- \_\_\_\_\_ 1. INSPECT TD-1271B/U MULTIPLEXER.
- \_\_\_\_\_ 2. INSPECT CIRCUIT CARD ASSEMBLIES.
- \_\_\_\_\_ 3. PERFORM TD-1271B/U MULTIPLEXER ALARM AND LAMP TEST.
- \_\_\_\_\_ 4. CONDUCT SATELLITE LINK LOOPBACK TEST.
- \_\_\_\_\_ 5. PERFORM OPERATIONAL CHECK ON EACH PORT.

**AN/SSR-1**

- \_\_\_\_\_ 1. PERFORM SYSTEM OPERATIONAL TEST.
- \_\_\_\_\_ 2. INSPECT AMPLIFIER-CONVERTERS AND ANTENNAS.
- \_\_\_\_\_ 3. PERFORM CHANNEL GAIN TEST.
- \_\_\_\_\_ 4. PERFORM LOCAL OSCILLATOR FREQUENCY TEST.
- \_\_\_\_\_ 5. PERFORM RECEIVER BIT SYNC FREQUENCY TEST.
- \_\_\_\_\_ 6. PERFORM PSK FREQUENCY TEST.
- \_\_\_\_\_ 7. PERFORM FAULT ALARM TEST.

**AN/WSC-6(V)2 SHF SATCOM**

- \_\_\_\_\_ 1. TEST ANTENNA OPERATION.
- \_\_\_\_\_ 2. VERIFY SYSTEM OPERATIONAL STATUS.
- \_\_\_\_\_ 3. PERFORM SYSTEM LOOPBACK TESTS.
- \_\_\_\_\_ 4. INSPECT ALL SYSTEM COMPONENTS.
- \_\_\_\_\_ 5. INSPECT ANTENNA RADOME.
- \_\_\_\_\_ 6. TEST OPERATE ALL PORTS.

**AN/USC-38 EHF SATCOM**

- \_\_\_\_\_ 1. TEST ANTENNA OPERATION.
- \_\_\_\_\_ 2. VERIFY SYSTEM OPERATIONAL STATUS.
- \_\_\_\_\_ 3. PERFORM SYSTEM TESTS.
- \_\_\_\_\_ 4. INSPECT ALL SYSTEM COMPONENTS.
- \_\_\_\_\_ 5. INSPECT ANTENNA RADOMES.
- \_\_\_\_\_ 6. TEST OPERATE ALL PORT

**CA-III CHALLENGE ATHENA (SHF)**

- \_\_\_\_ 1. TEST ANTENNA OPERATION.
- \_\_\_\_ 2. VERIFY SYSTEM OPERATIONAL STATUS.
- \_\_\_\_ 3. PERFORM SYSTEM TESTS.
- \_\_\_\_ 4. INSPECT ALL SYSTEM COMPONENTS
- \_\_\_\_ 5. INSPECT ANTENNA RADOME.

**NAVY ORDER WIRE**

- \_\_\_\_ 1. PERFORM PRINT QUALITY TEST.
- \_\_\_\_ 2. TEST PORTS.
- \_\_\_\_ 3. TEST BIT.
- \_\_\_\_ 4. TEST ALARMS.
- \_\_\_\_ 5. VERIFY QUEUE PROCESSING.
- \_\_\_\_ 6. VERIFY DISK DRIVE OPERATION.

**NAVMACS SYSTEMS**

**NAVMACS V2, V3, V5 SYSTEMS**

**AN/USH-26(V) RECORDER-REPRODUCER**

- \_\_\_\_ 1. INSPECT RECORDER-REPRODUCER.
- \_\_\_\_ 2. TEST/OPERATE.

**RD-433/SSH DIGITAL MAGNETIC DISK**

- \_\_\_\_ 1. INSPECT MASS MEMORY.
- \_\_\_\_ 2. PERFORM MASS MEMORY LAMP TEST.

**AN/UYK-20(V) DATA PROCESSING SET**

- \_\_\_\_ 1. INSPECT DATA PROCESSING SET.
- \_\_\_\_ 2. TEST MAINTENANCE/OPERATOR PANEL INDICATOR PUSHBUTTONS.
- \_\_\_\_ 3. PERFORM DIAGNOSTIC TEST (MICRO, CP MEMORY, I/O).

**TT-624()(V)5,9/UG TELEPRINTER**

- \_\_\_\_ 1. INSPECT PRINT MECHANISM.
- \_\_\_\_ 2. INSPECT ELECTRONIC BAY.
- \_\_\_\_ 3. PERFORM SELF TEST.

**AN/RD-397 TAPE REPRODUCER**

- \_\_\_\_ 1. TEST/OPERATE.

## **NAVMACS II SYSTEM**

### **SYSTEM RACK FAN/FILTER ASSEMBLY**

- \_\_\_\_1. INSPECT AIR FILTER.
- \_\_\_\_2. PERFORM FAN FAIL TEST.

### **X-WINDOW KEYBOARD AND TRACKBALL**

- \_\_\_\_1. INSPECT KEYBOARD AND TRACKBALL.
- \_\_\_\_2. BITE TEST.

### **HP LASERJET IV PRINTER**

- \_\_\_\_1. INSPECT PRINTER.

### **REMOTE DOT MATRIX PRINTER**

- \_\_\_\_1. INSPECT PRINTER.
- \_\_\_\_2. PERFORM PRINTER SELF-TEST.

### **UNINTERRUPTIBLE POWER SUPPLY (UPS)**

- \_\_\_\_1. INSPECT AIR FILTER.
- \_\_\_\_2. EXERCISE BATTERIES.

### **LAN FILE SERVER GROUP**

- \_\_\_\_1. INSPECT LAN FILE SERVER GROUP.
- \_\_\_\_2. BITE TEST.

### **VME CHASSIS**

- \_\_\_\_1. INSPECT VME CHASSIS

### **SYSTEM RACK CP-2184/SYQ-7 TAC-III**

- \_\_\_\_1. INSPECT COMPUTER.
- \_\_\_\_2. BITE TEST.

### **X-WINDOW TERMINAL BASE**

- \_\_\_\_1. INSPECT X-WINDOW TERMINAL BASE.

**CONDUCT FALLBACK TEST AND BOOT UP.**



**AN/USQ-101(V)3 TRE**

- \_\_\_\_1. INSPECT LOW NOISE AMPLIFIERS AND ANTENNAS.
- \_\_\_\_2. TEST OPERATION OF EQUIPMENT.

**ON-143(V)11/USQ**

- \_\_\_\_1. INSPECT EQUIPMENT INTERIOR.
- \_\_\_\_2. TEST OPERATE EQUIPMENT.

**TERMINAL EQUIPMENT**

**QMCS CONSOLE**

- \_\_\_\_1. VERIFY COMPLETE SYSTEM OPERATION.
- \_\_\_\_2. CONDUCT EQUIPMENT INVENTORY.
  - SPECTRUM ANALYZER
  - SIGNAL GENERATOR
  - AC VOLTMETER
  - DIGITAL VOLTMETER
  - AM-3729 AMPLIFIER
  - SPEAKER
  - HF/UHF ANTENNA PATCH
  - RECEIVER/COMPARATOR
  - DISTORTION ANALYZER

**KY-122/850**

- \_\_\_\_1. TEST OPERATE KEYS.

**AN/UGC-143A(V) 1,2,3,4**

- \_\_\_\_1. PERFORM AN/UGC-143A(V) NST BIT "C" DIAGNOSTIC.
- \_\_\_\_2. INSPECT NST UNITS.
- \_\_\_\_3. INSPECT PRINT QUALITY.
- \_\_\_\_4. INSPECT SLIDE RAILS.

**CV-2460/SGC**

- \_\_\_\_1. VERIFY OPERATION OF SIGNAL CONVERTER.

**AN/URA-17()**

- \_\_\_\_\_1. TEST TUNING INDICATOR CENTERING.
- \_\_\_\_\_2. TEST DISCRIMINATOR OPERATION.
- \_\_\_\_\_3. TEST KEYER FUNCTION.
- \_\_\_\_\_4. TEST SAFETY INTERLOCKS.
- \_\_\_\_\_5. CHECK CRT ALIGNMENT.

**RD-379(V), RD-390(V) RECORDER-REPRODUCER**

- \_\_\_\_\_1. TEST FAIL-SAFE CIRCUITRY.
- \_\_\_\_\_2. SET TIME-CODE GENERATOR.
- \_\_\_\_\_3. CHECK SWITCHING OPERATION.
- \_\_\_\_\_4. TEST OPERATE UNIT.

**ON-143(V)6/USQ**

- \_\_\_\_\_1. PERFORM INTERCONNECTING GROUP (IC) SELF TEST.
- \_\_\_\_\_2. TEST CHASSIS SAFETY INTERLOCKS.
- \_\_\_\_\_3. TEST OPERATE EQUIPMENT.

**CRYPTO EQUIPMENT**

**TSEC/KY-58**

- \_\_\_\_\_1. INSPECT AND TEST FILL CONNECTOR.
- \_\_\_\_\_2. TEST OPERATE UNITS.
- \_\_\_\_\_3. MEASURE BATTERY VOLTAGE.

**TSEC/KWR-46**

- \_\_\_\_\_1. INSPECT AND TEST FILL CONNECTOR.
- \_\_\_\_\_2. TEST OPERATE UNITS.
- \_\_\_\_\_3. MEASURE BATTERY VOLTAGE.

**TSEC/KG-84A, 84C**

- \_\_\_\_\_1. INSPECT AND TEST FILL CONNECTOR.
- \_\_\_\_\_2. TEST OPERATE UNITS (NOW, NAVMACS, CUDIXS, OTCIXS, TADIXS).
- \_\_\_\_\_3. MEASURE BATTERY VOLTAGE.

**KYV-5/TSEC**

- \_\_\_\_ 1. INSPECT AND TEST FILL CONNECTOR.
- \_\_\_\_ 2. TEST OPERATE UNITS (HF/LOS/SATCOM).
- \_\_\_\_ 3. MEASURE BATTERY VOLTAGE.

**TSEC/KG-40**

- \_\_\_\_ 1. INSPECT AND TEST FILL CONNECTOR.
- \_\_\_\_ 2. TEST OPERATE UNITS.
- \_\_\_\_ 3. INSPECT INTERCONNECTING GROUP.

**TSEC/KGR-96**

- \_\_\_\_ 1. INSPECT AND TEST FILL CONNECTOR.
- \_\_\_\_ 2. TEST OPERATE UNITS.

**TSEC/KGV-11**

- \_\_\_\_ 1. INSPECT AND TEST FILL CONNECTOR.
- \_\_\_\_ 2. TEST OPERATE UNITS.

**MISCELLANEOUS EQUIPMENT/SYSTEM**

**AM/2123()(V)/U**

- \_\_\_\_ 1. MEASURE PREAMPLIFIER AND CHANNEL OUTPUT.
- \_\_\_\_ 2. VERIFY CHANNEL LABELS.

**AN/URQ-23**

- \_\_\_\_ 1. VERIFY OUTPUT LEVELS.
- \_\_\_\_ 2. TEST FREQUENCY TIME STANDARD AUTOMATIC POWER SWITCHOVER FUNCTIONS AND VERIFY ALARM ACTIVATION.
- \_\_\_\_ 3. VERIFY CALIBRATION.
- \_\_\_\_ 4. CONDUCT POWER FAILURE ALARM TEST.
- \_\_\_\_ 5. VERIFY WARNING PLATE AT BREAKER PANEL.

**AM-3729/SR AUDIO FREQUENCY AMPLIFIERS**

- \_\_\_\_1. INSPECT AUDIO AMPLIFIER UNITS (CHECK LAMPS, FUSES, KNOBS, HOLD-DOWN SCREWS AND CLEANLINESS.

**SA-2112(V)/STQ**

- \_\_\_\_1. CONDUCT LAMP AND ALARM TEST.
- \_\_\_\_2. CONDUCT PERFORMANCE TEST.

**TA-970, 980, 990, CONSOLE RADIO REMOTES**

- \_\_\_\_1. INSPECT RADIO REMOTES.
- \_\_\_\_2. TEST OPERATE RADIO REMOTES.

**"VV" CIRCUIT**

- \_\_\_\_1. VERIFY SYSTEM OPERATION.

**LINK 11/LINK 4A**

- \_\_\_\_1. VERIFY SYSTEM OPERATION AND INPUT INTO NTDS CONSOLE.
- \_\_\_\_2. CONDUCT MAINTENANCE TEST.

**OTCIXS**

- \_\_\_\_1. VERIFY SYSTEM OPERATION AND INPUT INTO NTDS CONSOLE.

**TADIXS**

- \_\_\_\_1. VERIFY SYSTEM OPERATION AND INPUT INTO NTDS CONSOLE.

**SNAP SYSTEM**

- \_\_\_\_1. VERIFY SYSTEM OPERATION.
- \_\_\_\_2. CONDUCT SYSTEM DIAGNOSTIC.
- \_\_\_\_3. INSPECT WORKSTATIONS.
- \_\_\_\_4. TEST UNINTERRUPTED POWER SUPPLY (UPS) IF INSTALLED.

## MISCELLANEOUS

### **ALARMS:**

\_\_\_\_ DL ALARMS  
\_\_\_\_ AN/SSR-1  
\_\_\_\_ FREQUENCY STANDARDS

\_\_\_\_ SHORTING PROBES  
\_\_\_\_ EMI AND IMI CHECKS  
\_\_\_\_ ELECTRICAL SAFETY CHECKS  
\_\_\_\_ SPACE INSPECTION (CLEANLINESS AND STORAGE)  
\_\_\_\_ DESTRUCTION EQUIPMENT  
\_\_\_\_ DUPLICATION EQUIPMENT

### PATCH PANELS

\_\_\_\_ 1. VERIFY LABELS.  
\_\_\_\_ 2. INSPECT KNOBS.  
\_\_\_\_ 3. INSPECT INTERIOR.  
\_\_\_\_ 4. INSPECT SLOTS/PORTS.